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ABSTRACT

A Teacher Corps project intended to develop and implement a program of individualized instruction at a local middle school is described. The program is based on the assumption that each student is, in some way, a gifted student. The project adapts educational research in the area of gifted student instruction to a middle-school teacher-student learning situation in which low-income and minority students comprise approximately one-third of the student body. The project also demonstrates the type of teacher training and retraining necessary to meet the problems related to students from low-income families. (Authors/LH)

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Murray State University / Hopkinsville Middle School Teacher Corps Project

ED187664

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Identifying and Maximizing Unique Talents of Children

The Murray State University/Hopkinsville Middle School Teacher Corps design

SP. 015178

IDENTIFYING AND MAXIMIZING UNIQUE TALENTS OF CHILDREN--THE MURRAY STATE UNIVERSITY/HOPKINSVILLE MIDDLE SCHOOL TEACHER CORPS DESIGN

By

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and
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Murray State University Teacher Corps Project
Occasional Paper Series
No. 1

Murray State University
Murray, Kentucky 42071

February 1976

This publication is part of a series of occasional papers and books written by Teacher Corps staff members and teachers in an attempt to share some of the experiences gained in the Tenth Cycle Murray State University/Hopkinsville Middle School Teacher Corps Project during the 1975-77 school year. Below is a listing of titles of the total series. Copies are available upon request from the Teacher Corps Project Director, Murray State University, Murray, Ky., 42071.

Titles	Cost
1. Identifying and Maximizing Unique Talents of Children--The Murray State University/Hopkinsville Middle School Teacher Corps Design (14 pages)	$ .50
2. Parents' Guide...To Maximizing Your Child's Talents (17 pages)	.50
3. Every Child Is Gifted...A Resource Guide to Multi-Talent Activities for Teachers Based Upon Experience With Middle School Students (190 pages)	5.00
4. A Responsive Inservice Graduate Education Model (49 pages)	.50
5. Beyond Field-Based Teacher Education: The Concept of Responsive Inservice Education (16 pages)	.50
6. The Steering Committee: Its Role and Function in the Murray State University/Hopkinsville Middle School Responsive Inservice Education Program (11 pages)	.50
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8. An Exploration In Management and Demonstration/The Murray State University Management by Objectives and Demonstration System (30 pages)	.50
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4. Too Little Room...Not Enough Material...And A Whole Lot of Students: A Way of Individualizing 7th Grade Science
5. The Learning Center and Multi-Talents in Social Studies: We've Come A Long Way
6. Teaming In Social Studies in Talent Education
7. The First Time I Ever Won Anything: Reading Improvement
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IDENTIFYING AND MAXIMIZING UNIQUE TALENT IS THE FOCAL POINT OF MURRAY STATE UNIVERSITY RESEARCH PROJECT

The Murray State Teacher Corps Project proposes to create a teacher-student learning situation to identify and mazimize divergent learning potentials and styles, with the goal that each child will be properly classified as "gifted".

A substantial body of research indicates that most children possess some specialized ability. The concept that each child does have unique talents is critical to the Murray State project. It's purpose is to create within the school an atmosphere where the teacher has the opportunity and skills to discover the uniqueness of each child.

The project adapts research in this area to a middle school teacher-student learning situation in which low-income and minority students comprise approximately one-third of the student body. The project also demonstrates the type of teacher training and retraining necessary to meet the problems related to students from low-income families.

A "gifted" student is defined in this project as one with a talent or ability of a unique or high order that can be identified and developed. This talent or ability may not be revealed in a general abilities test or in the standard norm tests. It is therefore necessary to use ability tests and other preassessment instruments, both commercial and teacher made, to discover divergent ways of classifying and developing special talents.

It is emphasized that identifying and maximizing each child's uniqueness is not a simple matter of test construction and administration. The

Murray State program is a student-teacher interaction process that should have significant educational results. This interaction is based on new concepts for experienced teachers who have been teaching on the assumption that students fit the bell curve of low to high achievers, with the largest percentage of children in the middle.

Supportive Research

The research that supports the proposition that unique talents are distributed throughout the spectrum of children include:

1. Benjamin Bloom's...unpublished study found that when a level such as the upper tenth of the population was used as a working definition of "giftedness" approximately three-fifths of a particular group of students were found to be in the upper tenth, or "gifted" on one or more of seven primary abilities tests. "The point of this", said Bloom, "is that instead of one-tenth of the students appearing to be "gifted" on a general intelligence test, one-half or more appear to be "gifted" by being in the upper tenth on one or more of the specialized abilities tested. It is likely that if enough different tests were used, almost all children would be found to be superior in at least some area measured by the test."[1]
2. Calvin W. Taylor's...research sustains the results of multi-talent approach to teaching. His research identifies in addition to academic talents -- creative talents, planning talents, communicating talents, forecasting talents and decision making talents -- in students. (See Appendix A where these talents are graphically

illustrated with 28 second graders). Teachers at the Bella Vista Elementary School in Utah's Jordan District have validated Taylor's teaching-for-talent approach within the regular classroom. A new accountability instrument was developed that focuses upon the student's perceptions of the learning environment. Student Activities Questionnaire (SAQ) describes the individual classroom environment in terms of eight measurable scales: Individuation of Instruction, enjoyment of school, classroom participation, career development, self-concept, independent development (self-management), democratic classroom control, and multiple talent experiences.

Dr. Calvin Taylor in Today's Education summarizes the result of Bella Vista experiment in the following words:

> "In 1972, fifth and sixth graders at Bella Vista were compared on the SAQ and other measures with fifth and sixth graders from two schools in another district, who served as controls. The Bella Vista pupils outscored the control groups in all 58 comparisons, 42 of which produced significant differences. While the biggest differences, as expected, were found on multiple talent experiences, major differences were also found for the scores on the career development goal.

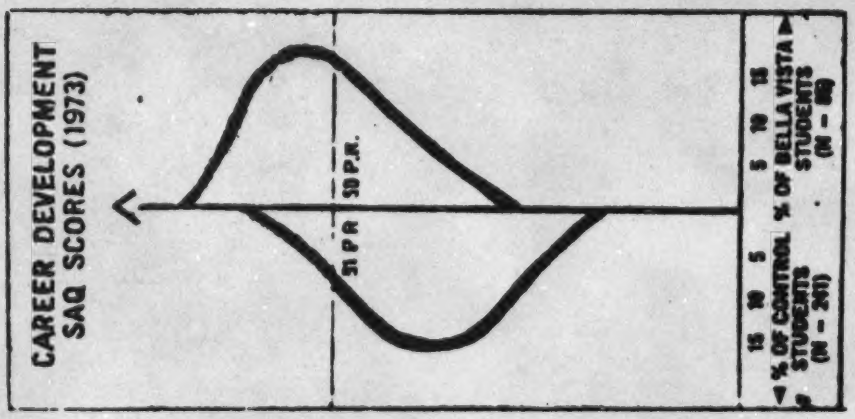


Figure 1

Figure 1 displays the differences in 1973 on the career development SAQ score, with two frequency distributions shown upright and opposite each other. A Bella Vista pupil ranked at the 50th percentile is comparable to the control student who stands at the 91st percentile of his group.

These differences are even more remarkable upon considering that the Bella Vista program is a very economical one.

When the average youngster, after exposure to multiple talent teaching, can surpass some 90 percent of control pupils on this measure. I am persuaded that multiple talent teaching is one vital way to achieve accountability in the classroom, especially toward career development."[2] Taylor reports the ALPHA Biographical Inventory has a creativity score which has been extensively validated on adult scientists and engineers. The Creativity Score, constructed from a decade of research involving 3,000 professional scientists and engineers, predicts scientific creativity and productivity but has a low to moderate interrelationship with conventional measures of talent and academic achievement. A special analysis of two scores from ALPHA obtained on 13,000 high school students in North Carolina..."nearly 500 students were discovered who were in the top 25% on the creativity score but not very promising academically (in the bottom two-thirds on the academic performance score)."[3]

3. L. L. Thurston...research maintains that multiple talents exist in students and subdivided the intelligence test into about 7 or 8 primary mental abilities. He was a leading exponent of multiple-factor theory.[4]

4. J. P. Guilford...the structure of intellect model by Guilford was an attempt to organize the traits into a systematic schema. His box-like model classfies intellectual traits along three demensions: operation, content and products.[5]

5. E. Paul Torrance...longitudinal studies conducted by Torrance showed dramatic changes take place in the functioning of a child identified as being creatively gifted. Many of these children were originally

identified as students in the fourth, fifth and sixth grades as pupils who could not read or write. In almost every class at least one of these "hopeless cases" turned out to be creatively gifted in some way.....additional research supports the conclusion. "...that whenever the way of teaching children is changes, different children become the star learners and thinkers. Similarly, whenever methods of assessing the outcomes of educational experiences are changed, different children emerge as the stars."[6]

In summary, the above research indicates:

1. that most children possess some specialized ability of a high order, and
2. that each child's unique talents can be identified and developed.

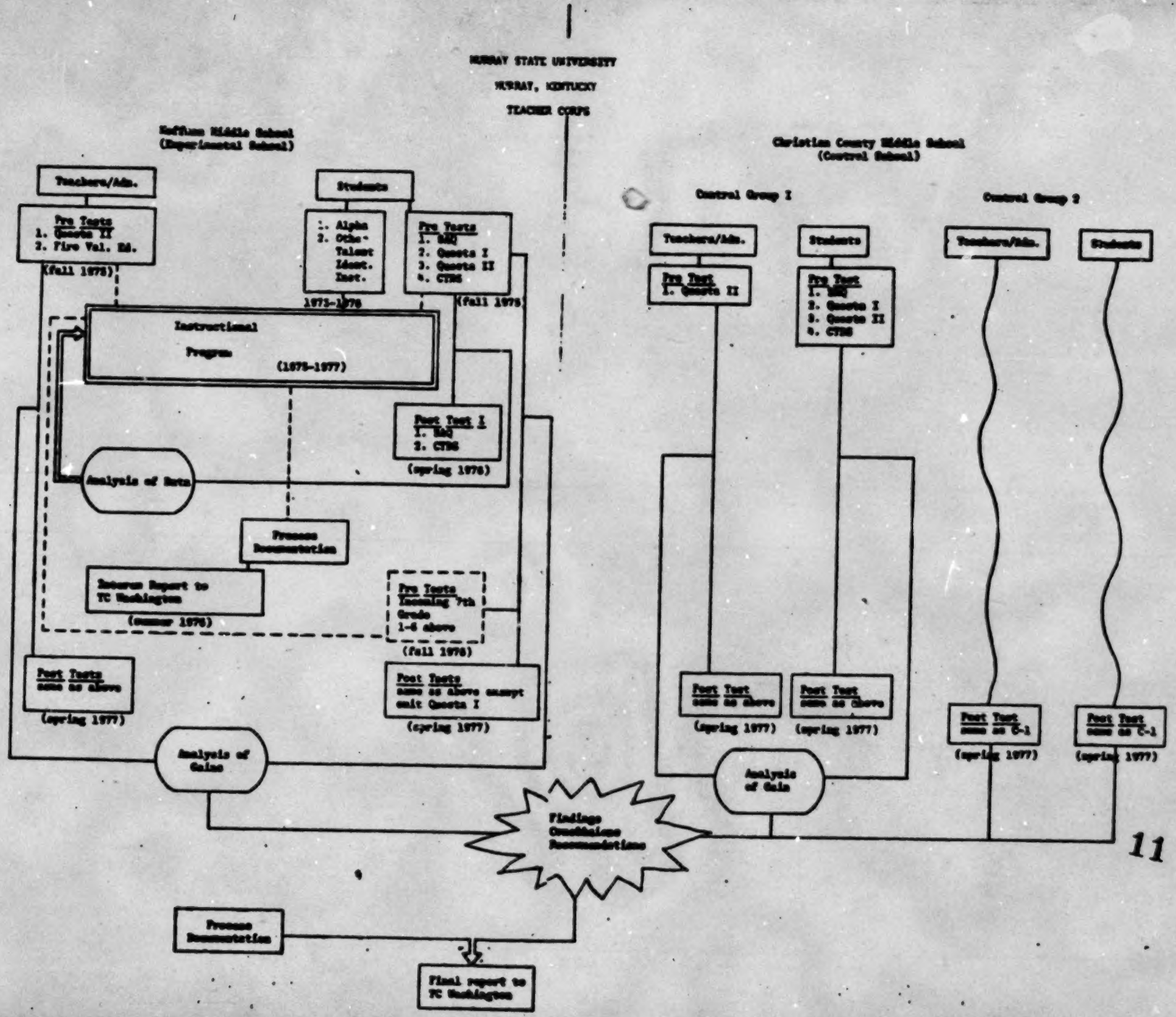
Project Research and Evaluation Activities

Research and evaluation activities within the project focus upon the measurement of impact in at least four dimensions: (1) impact upon students, (2) impact upon teachers, (3) impact upon the school and it's learning environment and (4) impact upon the community served by the school. The assessment program endeavors to measure more than student performance alone, although academic achievement levels will be examined through analysis of C.T.B.S. scores. A comprehensive and realistic measure of student outcomes must include measurement of key factors descriptive of conditions and educational processes which influence student performance. These include factors such as teacher attitudes toward a variety of educational concerns and processes, as well as measurement related to degree of student classroom participation,

teacher emphasis on reinforcement of self-concept, levels of individualization within the classroom, and development of potential in unique talent areas.

The basic concept around which this project is organized necessitates the generation of data of at least two basic types: (1) identification of specific and unique talents for each student, including the normal range of academic competencies determined by the C.T.B.S., and special potential in the areas of forecasting, decision-making, creativity, planning, communications, and leadership; and (2) descriptions of each teacher's instructional environment--educational process data--as perceived by students within that environment. The chart which follows indicates the basic flow of data within the project. As can be noted, talent identification data and educational process data both become input for the inservice instructional program as teachers develop, refine, or modify instructional systems, materials, management systems, organizational patterns, and interaction patterns within their individual teaching environments.

Educational process data is collected primarily through the use of the Student Activities Questionnaire (SAQ), a 65-item instrument which focuses upon student perceptions of their learning environment. The use of student's perceptions as opposed to available observational/analysis processes for the collection of these data offers one clear advantage: process data available to project staff, interns, and teachers is provided in both normative and on an individual student basis. Thus, while a teacher might receive a rather high overall "classroom participation score, it is possible to identify any particular student who, for whatever reason, might feel inhibited and reluctant to take part in classroom activities.


MURRAY STATE UNIVERSITY
MURRAY, KENTUCKY
TEACHER CORPS
Hoffman Middle School
(Experimental School)
Teachers/Adm.
Pre Tests
1. Quests II
2. Five Val. Rd.
(fall 1976)
Students
1. Alpha
2. Otis-
Talent
Ident.
Inst.
1975-1976
Pre Tests
1. BAI
2. Quests I
3. Quests II
4. CTBS
(fall 1976)
Instructional
Program
(1976-1977)
Post Test I
1. BAI
2. CTBS
(spring 1976)
Analysis of Data
Process
Documentation
Interim Report to
TC Washington
(summer 1976)
Pre Tests
Incoming 7th
Grade
1-6 above
(fall 1976)
Post Tests
same as above
(spring 1977)
Post Tests
same as above except
omit Quests I
(spring 1977)
Analysis of
Gains
Christian County Middle School
(Control School)
Control Group I
Teachers/Adm.
Pre Test
1. Quests II
Students
Pre Test
1. BAI
2. Quests I
3. Quests II
4. CTBS
Post Test
same as above
(spring 1977)
Post Test
same as above
(spring 1977)
Analysis
of Gain
Control Group 2
Teachers/Adm.
Students
Post Test
same as C-1
(spring 1977)
Post Test
same as C-1
(spring 1977)
Findings
Conclusions
Recommendations
Process
Documentation
Final report to
TC Washington

The SAQ provides teachers with class norms and individual student reactions in each of the following process dimensions:

The Individualization of Instruction score is a measure of the degree to which certain procedures are used to adapt curriculum content and learning processes specifically for the individual student's needs. Students in a class with a high average score on this scale report that they have some choice in their learning activities. They report that individual students in the classroom "often" or "very often" work on different learning tasks, and that a number of different activities are often ongoing within the classroom at one time. They also indicate that lessons and assignments are not the same for all students, and that students are often able to choose from different materials when working on an assignment.

The Reinforcement of Self-Concept scale reflects students' perceptions of whether good performances are recognized. High scores indicate that the teacher very often makes students feel good about themselves and their schoolwork, and that students very often are told when they have done a good job. The students in the class have a chance to see things other students have done well, are often encouraged to tell each other that they have done a good job, and are proud of the things they do in the class.

A high Classroom Participation score occurs when the students describe their classroom as a place of open discussion where all students are encouraged to participate. High scores indicate that the teachers very often encourage students to speak out and take part in class, to ask questions, and to take part in discussing subjects not closely related to the class subject. A high score also suggests having many activities in the classroom which involve each student's participation.

The Development of Career Talents scale measures the reported amount of training students received in skills which have broader application than immediate academic content. Students in a class with a high average score on this scale report that they are often involved in evaluation activities, including evaluation of their own work, as well as other events and ideas. They respond that they often talk about possible aspects of the future, how information learned in the class could be used in different jobs, and how they might use what they were learning in class. They have activities where everyone has to think up new ideas, and where the students work together on a group project.

The Expectations scale is a measure of the students' perceptions of the amount of effort required of them in their class. Classes with high average scores in this area have a high percentage of students who report that their assignments usually require a considerable amount of work and that everyone in the class is expected to do his or her best. High scores also indicate that the students are expected to do a lot of work, to work about as hard as they can and to try hard to learn all of the material.

Enjoyment of First Period Class. This scale measures how often the student gets excited about what is happening in class, whether the student does work for this class at home when it is not necessary for a good grade, whether the time passes quickly in this class, whether the student ever wants to continue working on work for this class after the period ends, at lunch, or other free time.

Since the school itself can be considered as a single environment, it was deemed essential that specific data be generated that teachers and admin-

istrators might use in decision-making related to the total school and its' program. To act and react intelligently, every member of the school community needs to know how other members perceive the realities of school life, of the environment of the school--the interplay among its' people, processes, and resources. Important dimensions of the environment include the way each individual feels about himself and the perceptions, values, expectations, satisfaction, and dissatisfactions of the various groups that make up the school community. To enable the school faculty and administrators to have and use this kind of feed-back, data was gathered using the E.T.S. version of Questa--Questa I and Questa II.

Questa I, the questionnaire for new students, is administered at the beginning of high school. This instrument gathers attitudinal, biographical, demographic, and socioeconomic information and is designed to discover a student's attitudes toward himself, his peers, his previous school, and his new school, his hopes, fears, and aspirations. Questa II, the questinnaire for students, teachers, and administrators, is administered to students and adults familiar with the school. From this instrument the school gains information about the degree to which students, faculty members, and administrators are satisfied with various parts of the school and with student development, about the nature and values of the school's subgroups, and about sources of tension and dissatisfaction. By comparing certain sections of both instruments, the school can measure its impact upon the student's attitudes and values. Questa is designed to assess the school, not individuals, so it is completed without any identification of individuals, and the results are tabulated and reported for groups only.

To approach an environment analytically and specifically, it is essential to determine the behavior of people in their environment. At the same time, it is also important to assess the environment as it is perceived and interpreted by those living in it. For these reasons, Questa includes reports of the typical behavior of people in a school as well as questions about their perceptions of the school's general climate. Thus, a school using the questionnaires to determine the typical behavior of teachers in awarding grades may at the same time find out how students and teachers perceive the climate of the classroom.

Since Questa is concerned more with specific internal uses than general external comparisons, it does not attempt to develop scores on scales. Item results generally seem more useful in several ways. First, they are more easily interpreted than general scale scores and can thereby more readily lead to an understanding of how the school works. Scales produce a single number about a general aspect of the school, based on items that have certain statistical relations to each other and that generally cover similar content. Scale scores of necessity abstract the qualities of the school and are thereby more open to misinterpretation. Item results, in contrast, are usually directly interpretable and understandable. The strategy used in Questa is to focus on the content of the item itself, to attempt to provide information about the school that can be used for decision making.

Adaptation of Research

The basic research findings that this project has identified indicates that unique talents in children can be identified and developed. The em-

phasis in this statement is on the words developed or enhanced as well as identification. This project's goal is not just to recognize uniqueness of individuals of a high order but to provide a diagnostic analysis and a positive prescriptive program that will enhance the identified abilities. The research instruments and evaluation processes previously described in this paper are among those used to provide the on-site instructional staff with specific data that unique and different instructional and learning strategies can be developed for individual as well as groups of children with unique talents.

The thrust of on-site instruction is to operationalize the instructional design with a minimum of gaps between theory and practice. The emphasis is on developing new divergent ways of classifying and maximizing a developing special unique talent.

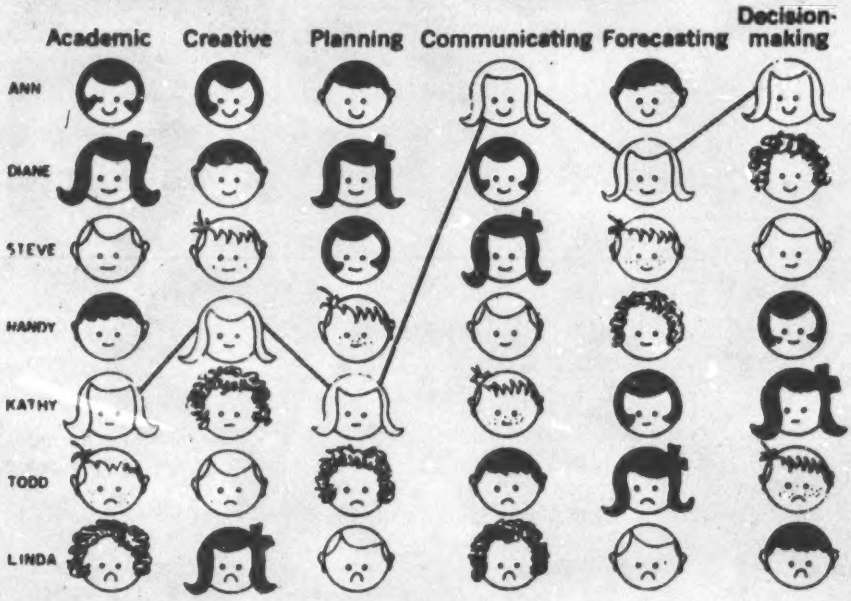
This application of basic research strategies, if successful should help validate Bloom's succinct statement that expresses the project's goal:

> "The consequence of teachers' viewing each individual as possessing unique talents of a high order (in contrast with viewing only a small group -- perhaps 10 per cent -- as having a high generalized ability) are quite profound. The teachers' appreciation of the unique merits of each child could have important consequences for the ways in which the student and teacher interact as well as for the ways in which the teacher might try to help each student in the learning process.[7]"

Potentially...all kids are gifted.

TAYLOR'S TALENT TOTEM POLES

WHERE DO YOU RATE ON THE TOTEM POLES?



ALL STUDENTS ARE NOW EDUCATIONALLY DEPRIVED*

The Multiple Talent Approach to Teaching has emerged from sustained research on talents. A breakthrough of teaching for creativity breaks away from the narrow band of academic-and-intelligence talents and expands into teaching for several other high level talents, heretofore largely ignored and left dormant in typical classrooms. Intelligence tests, encompassing about eight talents (less than one-tenth of the 98 talents now known), miss more than nine-tenths of the important intellectual talents now measurable. Consequently, the main goal in Multiple Talent Teaching is to have students use many more of these neglected talents than they do at present. (See Taylor's Talent Totem Trees above.)

Through this new approach, nearly all students can be above average in at least one of these many intellectual talents, which can now be functioning in classrooms. Furthermore, students can use each of these multiple talents to process information across all subject matter areas and thereby acquire greater knowledge and also work at the fringe of knowledge and beyond.

Instead of conceiving of students as merely learners and reproducers, we esteem them much higher as thinkers and producers, decision-makers, communicators, forecasters, creators, etc. Rather than depriving them of these "adult prerogatives," teachers have them deal with knowledge in all these talent ways. The youngest are remarkably ready to function in these adult-like activities. They even became more full-fledged children in the process, being livelier, healthier, happier, and more self-esteemed and self-managed when their natural talent processes are growing and functioning naturally.

The Teaching-of-Knowledge Approach has proved to be a less-sound educational focus, without yielding its promised by-products. In contrast, the Multiple Talent Totem Pole Approach moves toward the goal of developing effectively functioning, talented people; enriches and enlivens the students and their teachers and administrators; and thereby humanizes the entire educational process.

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*Abstract for XVIIth International Congress of Applied Psychology, Liege, Belgium, 1971, Calvin W. Taylor, Professor of Psychology, University of Utah, Salt Lake City, Utah, 84112 and Robert L. Ellison, Research Director, Institute for Behavioral Research in Creativity, 1417 South 11th East, Salt Lake City, Utah, 84105.

FOOTNOTES

1. Bloom, Benjamin S. "Testing Cognitive Ability and Achievement." Handbook of Research on Teaching, ed. N. L. Gage, 1963, p. 384.

2. Taylor, Calvin W. "Multiple Talent Teaching", Today's Education, March - April, 1974, p. 73.

3. Taylor, Calvin W. "Multi-talent Potential", Project Implode, Bella Vista Elementary School, 1971, p. 11.

4. Anastasi, Anna. Psychological Testing; 3rd ed., Macmillan, 1960, p. 328.

5. Ibid., p. 331.

6. Torrance, E. Paul, Gifted Children in the Classroom, Macmillan, 1965, p. 10.

7. Bloom, op. cit.